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### COMPLETE SPECIFICATION.

#### **An Improved Means for the Application of Electricity to the Human Body.**

I, CAMILLO RIGOLA, of 5 The Avenue, Bournemouth: Hair and Skin Specialist, do hereby declare the nature of this invention, and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

5 This invention relates to an improved means for the application of electricity to the human body and it has for its object to provide a portable, simple and effective device whereby currents of electricity of varying intensity may be readily applied to the face and scalp.

10 In carrying the invention into effect I construct a case of wood or other suitable material provided with a lid and preferably divided into two parts, one of which may contain a battery, and suitable instruments for applying the electricity, and the other a coil, contact breaker and other parts whereby the intensity of the current may be regulated together with a switch whereby the circuit is broken when the coil is not in use. An index is also provided whereby  
15 the relative strengths of current are indicated. Terminals are placed upon the exterior of the case for the attachment of leads or wires connected to the instruments aforesaid. The winding of the coil is such that the current passing therethrough may be caused to traverse either the full number of the convolutions or only a part thereof. The terminals aforesaid are connected to each of  
20 the respective windings.

In order that the invention may be the better understood drawings are appended in which:

Fig. 1 is an elevational view, one side of the case being removed.

25 Fig. 2 is a plan with the cover of the compartment containing the coil removed.

Fig. 3 is a view to an enlarged scale shewing the switch whereby the circuit is broken when the pointer for the scale is set at zero.

Fig. 4 is a view showing the scale and pointer therefor.

Referring to the appended drawings, *a* indicates the outer case provided with  
30 a lid sliding in grooves *a*<sup>1</sup> and divided longitudinally by means of a partition *a*<sup>2</sup>, forming two compartments *a*<sup>3</sup> *a*<sup>4</sup>, one of which may contain the battery and the instruments for applying the electricity, and the other the coil, contact breaker and the like, and which compartment is provided with a fixed cover *a*<sup>5</sup> secured in position by means of screws or the like. A board *a*<sup>6</sup> serves to carry  
35 the coil and a base board *a*<sup>7</sup> is also provided. The coil *b* is supported upon the board *a*<sup>6</sup> by means of screws *b*<sup>1</sup> which pass through the ends thereof and through distance pieces *b*<sup>2</sup> into the board *a*<sup>6</sup>. Passing freely through the coil is a core *c* one end of which is provided with a tubular extension *c*<sup>1</sup> formed of brass or other non-magnetic material and which extension forms a guide for the core  
40 when drawn out from the coil. Secured to the outer end of the core *c* by means of a screw *c*<sup>2</sup> is a U. shaped piece of metal *d* to the inner ends of which are pivotally connected the ends of a second U. shaped piece of metal *e*. Rigidly connected to the transverse member of the part *e* is an L. shaped rod *f* the opposite end of which is pivotally connected to the end of an arm *g* secured

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to the horizontal spindle  $h$  which passes through the plate  $h^1$ , secured to the inside of the compartment, to the outside of the case to which is secured a second plate  $h^2$ . The end of spindle  $h$  is squared and has secured to it a piece of vulcanite or other material  $h^3$  which serves as a handle whereby the spindle may be rotated, thus advancing or withdrawing the core  $c$  within the coil and so varying the intensity of the current passing therethrough. A pointer  $h^4$  is also secured to the spindle  $h$ , a scale  $h^5$  being provided upon which are indicated numbers preferably from zero to 10 designed to indicate relatively currents of varying intensities. The scale  $h^5$  and plate  $h^2$  are secured to the outer surface of the board  $a^6$ , an aperture being formed in the case  $a$  through which the scale is visible and in which is located the handle  $h^3$ , the outer surface of which is thus flush with the outer surface of the front of the case. To limit the movement of the arm  $g$  in either direction a stop  $i$  is provided which projects horizontally from plate  $h^1$  and which stop engages respectively with the arm  $g$  and the rod  $f$ . Secured to the inner face of board  $a^6$  is an L shaped plate  $j$  designed to form a contact for the pin projecting from the face of the spring  $k$  secured to the base  $a^7$  and which spring when the coil is not in use and the pointer set to zero, is pushed back by the projection  $l$  upon arm  $g$ , which projection comes into contact with the projection  $k^1$  as shown in Fig. 3.

$m$  indicates a contact breaker, which may be of any desired form but which in the present instance is constructed and arranged in accordance with the Specification and drawings forming part of the Letters Patent No. 9324 of 1903, and which device therefore in itself forms no part of the present invention.  $n$   $o$  indicate plates secured to the board  $a^7$  and to which are connected wires as indicated by dotted lines in Fig. 2 attached to the battery. The circuit is arranged as follows:—

As aforesaid the plates  $n$   $o$  form terminals for the battery and from the plate  $n$  a conductor is led to the base of spring  $k$ . Assuming the coil to be in use the current passes from spring  $k$  to plate  $j$  and thence by means of a conductor to the terminals 2, 3 located upon the exterior of the case. To the conductor just referred to is also connected one end of the wire upon the coil  $b$ , the winding of which coil as aforesaid is divided into two parts, the ends of one being connected respectively to the terminals 2, 3, and terminal 1, whilst the other is connected to the terminal 3 and through the base 5 of the contact breaker to the terminal 4. A conductor from plate  $o$  is connected to the coil of the contact breaker, the opposite end of which coil is connected to the contact 6, the current passing thence through base 5 to coil  $b$ . By this means it is possible to employ currents of two different initial intensities, which may be regulated by means of the movable core  $c$  of coil  $b$  the said currents being respectively taken from the terminals 1 and 2, 3 and 4. A suitable handle may be provided for carrying the case and the exterior thereof may bear directions relative to the purpose of the device and for the use of same.

Having now particularly described and ascertained the nature of my said invention, and in what manner the same is to be performed, I declare that what I claim is:—

1. An improved means for the application of electricity to the human body, comprising a solenoid having a movable core operated from a suitable handle located upon the exterior of the case and secured to the end of a spindle to the opposite end of which is secured an arm pivotally attached to one end of a bar connected to the end of a U shaped piece of metal, the ends of which are pivotally secured to the ends of a second piece of metal of like form and rigidly attached to the end of the movable core, an extension upon the core formed of non-magnetic material and forming a guide for the core, a contact breaker arranged in series with the solenoid, a switch whereby the circuit is broken when the apparatus is not in use and suitable terminals for the attachment of the instruments whereby the electricity is applied to the body, a battery, an index or scale for indicating the relative intensities of the current, and finally

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a suitable containing case, all constructed and arranged substantially as herein described and illustrated by the appended drawings.

2. In a means for the application of electricity to the human body, a solenoid having a movable core adapted to be operated from a handle located upon the outside of the containing case and an index whereby the relative intensities of the current are shown according to the degree of immersion of the core within the solenoid.

3. In a means for the application of electricity to the human body the combination with a solenoid having a movable core operated in the manner described, of a switch adapted to open the circuit when the pointer for the index is at zero comprising a plate such as *j* and a spring plate *k* provided with a projection *k'* engaging a projection *l* upon the arm attached to the parts by which the movement of the core is effected.

4. For use in a means for applying electricity to the human body a solenoid provided with windings whereby currents of different initial intensities may be employed.

5. The improved means for the application of electricity to the human body constructed arranged and operating substantially as herein described and illustrated by the accompanying drawings.

20 Dated this 13th day of October 1904.

J. E. EVANS-JACKSON & Co.,  
Agents for the Applicant.

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Redhill: Printed for His Majesty's Stationery Office, by Love & Malcomson, Ltd.—1904.







[This Drawing is a reproduction of the Original on a reduced scale.]

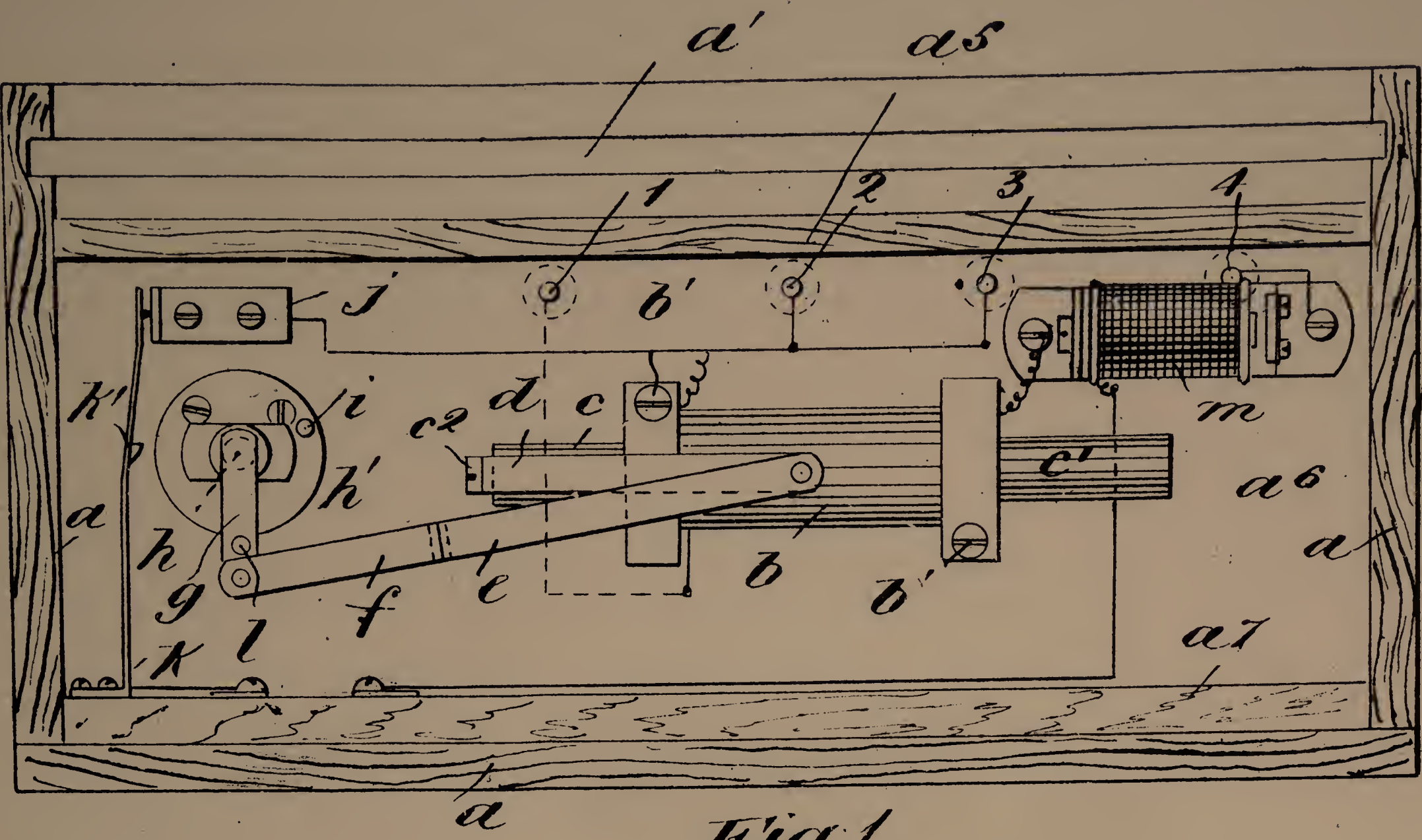


Fig. 1.

Fig. 2.

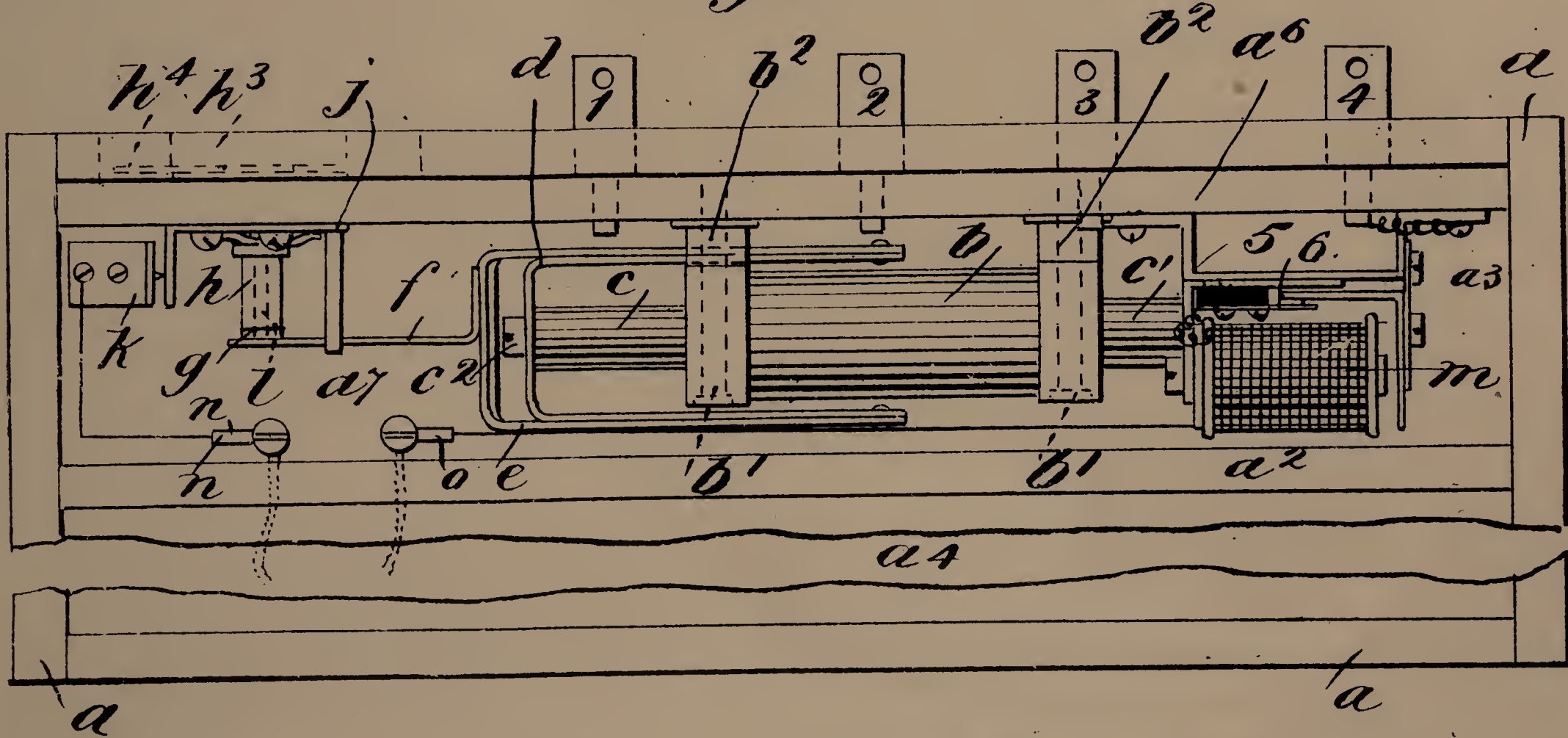


Fig. 4.

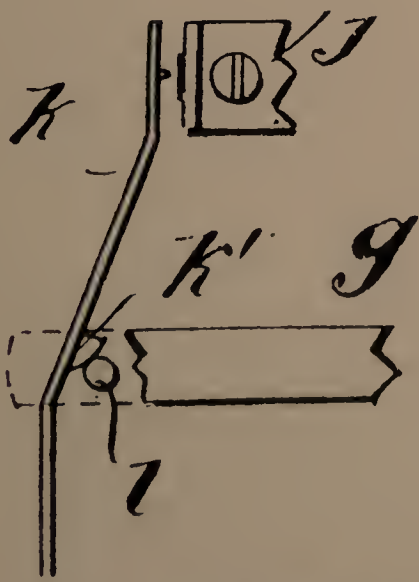


Fig. 3.

